



AMITY UNIVERSITY

MADHYA PRADESH

Established vide Government of Madhya Pradesh Act No. 27 of 2010

17.2.3 International Collaboration Data Gathering for SDG

Participate in international collaboration on gathering or measuring data for the SDGs

Strengthening Global Partnerships for Sustainable Development

Amity University Madhya Pradesh (AUMP) has established a strong footprint in advancing SDG 17 – Partnerships for the Goals through international collaborations, co-authored research publications, and evidence-based data collection initiatives. By partnering with authors from developing countries such as Bangladesh, Kenya, and Indonesia, the university enhances the proportion of research outputs co-authored with low- and lower-middle-income countries and contributes substantially to SDG-focused publications.

These collaborations extend beyond academic output to capacity building, workshops, and multi-stakeholder dialogue, reinforcing AUMP's commitment to knowledge sharing and best-practice promotion. Research initiatives address pressing issues such as sustainable agriculture, renewable energy, industrial innovation, financial inclusion, and climate resilience, linking SDG 17 partnerships to broader SDG impacts including SDG 8, SDG 9, and SDG 13.

By gathering and sharing international data, participating in joint projects, and promoting cross-sectoral collaboration, AUMP demonstrates how universities can effectively mobilize knowledge, expertise, and resources for sustainable development. This evidence-based approach, combined with community engagement and outreach programs, highlights AUMP's role as a key driver of SDG 17 implementation, creating measurable and positive impacts in both academic and societal domains.

AUMP exemplifies how strategic global partnerships enable universities to contribute meaningfully to sustainable development, demonstrating measurable outcomes that strengthen research, policy, and practice across national and international contexts.

International Collaborations and Co-Authorship

International research partnerships include joint studies in supply chain optimization, AI-enabled solutions for smart agriculture, renewable energy adoption, and financial literacy programs, all of which contribute directly to the global knowledge base and support sustainable development in partner countries. These are as follow:

1. Jamal Basha Dudekula, Associate Professor, Amity Institute of Pharmacy, Amity University, Gwalior, along with his team of researchers from India and abroad, has employed advanced computational intelligence techniques to achieve sustainability in engineering systems. Their paper, “Computational Intelligence Techniques for Achieving Sustainability in Engineering Systems,” presents innovative AI-driven models for optimizing industrial processes and sustainable design. This collaborative study was published in **2024** (<https://link.springer.com/article/10.1007/s43621-024-00575-x>)

2. Dr. Wasim Akram, along with an international team of scientists, explored the therapeutic potential of *Moringa oleifera* in modern medicine. Their paper, “Exploring the Therapeutic Potential of *Moringa Oleifera*: A Comprehensive Review,” bridges traditional and contemporary medical systems to identify bioactive compounds with preventive and curative potential. The study appeared in **2024** (<https://www.sciencedirect.com/science/article/pii/S2667142524001155>)

3. Dr. Daniel Arockiam and other researchers from India and abroad proposed an advanced hybrid model integrating Spider Monkey Optimization with Deep Learning. Their work, “Spider Monkey Optimization with Deep Learning-Based Intrusion Detection System for Network Security,” enhances cybersecurity and intelligent threat detection systems. Published in **2024** ([DOI: 10.54216/JISIoT.120108](https://doi.org/10.54216/JISIoT.120108)).

4. Dr. Daniel Arockiam along with Indian collaborators and foreign collaborator, investigated pervasive and transparent security issues in modern computing. Their paper, “Ubiquitous and Transparent Security: Challenges and Frameworks,” provides insights into scalable digital security models for ubiquitous computing environments. The study was published in **2024** ([DOI: 10.1201/9781003362685](https://doi.org/10.1201/9781003362685)).

5. Umang Sharma and his multidisciplinary team from India and abroad have designed a predictive framework for intelligent healthcare systems using machine learning techniques. The paper, “Web-Based Inventory, Stock Monitoring and Control System Powered by Local Encrypted Web Server,” focuses on web-based inventory, stock monitoring, and control systems powered by a local encrypted web server **2024** (DOI: [10.23919/INDIACom61295.2024.10498795](https://doi.org/10.23919/INDIACom61295.2024.10498795)).

6. Dr. Neeraj Mishra research collaborators explored on Age-associated macular degeneration: Epidemiologic features, complications, and potential therapeutic approaches. Paper provide a comprehensive analysis of age-related macular degeneration (AMD) by examining its phenotypic, ecological, genetic, demographic, and molecular risk factors, along with the underlying disease mechanisms and pathophysiological processes that contribute to its onset and progression. It aims to review and synthesize recent advancements in AMD research, including the development and significance of relevant animal models, to enhance understanding of the molecular pathways involved in the disease. Furthermore, the study seeks to evaluate existing and emerging therapeutic strategies, identify potential molecular

targets for treatment, and highlight the most effective approaches for managing AMD progression. By doing so, the paper underscores the increasing public health and socioeconomic implications of AMD-associated visual impairment in the context of a rapidly aging global population. [10.1016/B978-0-443-13587-3.00010-2](https://doi.org/10.1016/B978-0-443-13587-3.00010-2)

7. Saurabh Sharma along with Indian collaborators and foreign collaborator to explore the application of Natural Language Processing (NLP) in the field of customer service and its potential to enhance user satisfaction and business revenue. It aims to examine key NLP techniques such as sentiment analysis, text categorization, and language generation, highlighting how these technologies can improve customer interaction and operational efficiency. The study seeks to analyze how sentiment analysis helps businesses understand customer emotions, how text categorization streamlines query management, and how automated language generation facilitates quick and consistent responses. Additionally, the paper investigates the economic benefits of NLP adoption, including cost reduction through automation and increased sales through improved customer experiences. It also addresses critical challenges such as the need for extensive training data and the risk of algorithmic bias, emphasizing the importance of responsible and effective NLP implementation in customer service systems. **DOI:** [10.1109/ICACITE57410.2023.10182452](https://doi.org/10.1109/ICACITE57410.2023.10182452)

8. Raghendra Kumar Mishra along with Indian collaborators and foreign collaborator, to provide a comprehensive review of the biochemical composition, biosynthesis, and therapeutic potential of metabolites found in tea (*Camellia sinensis*). It aims to examine the diverse range of tea constituents—including phenolic compounds, flavonoids, alkaloids, vitamins, enzymes, proteins, lipids, and carbohydrates—and their roles in human health. The study focuses on understanding how environmental factors, seasonal variations, cultivation practices, and genetic variability influence the synthesis and accumulation of tea metabolites. Furthermore, it explores the therapeutic applications of these bioactive compounds, particularly catechins and flavonoids, in combating microbial infections, cancer, neurological, and metabolic disorders. The paper also highlights the synergistic effects of natural tea metabolites with synthetic drugs in enhancing disease protection and discusses how nanotechnological advancements can improve the bioavailability and therapeutic efficacy of these natural compounds. **DOI:** [10.1016/B978-0-443-13587-3.00010-2](https://doi.org/10.1016/B978-0-443-13587-3.00010-2)

Amity University Madhya Pradesh (AUMP) exemplifies the effective implementation of SDG 17 – Partnerships for the Goals through strategic international collaborations and co-authored research publications with scholars from developing countries. The university actively promotes capacity building and knowledge exchange, strengthening research capabilities and fostering expertise across borders. Through evidence-based research and cross-sectoral dialogue, AUMP ensures that its academic initiatives are aligned with global sustainability challenges and policy priorities. Its projects are designed to create synergies with other SDGs, such as

climate action, industrial innovation, and inclusive economic growth, amplifying the overall impact of its work. Furthermore, the university engages with local and international communities through outreach programs, translating research outcomes into tangible social and developmental benefits. Collectively, these initiatives demonstrate AUMP's commitment to fostering global partnerships, advancing sustainable development, and contributing to measurable societal impact. Through these initiatives, AUMP strengthens global partnerships, enhances research impact, and contributes to the achievement of the United Nations Sustainable Development Goals, demonstrating a clear commitment to inclusive, evidence-driven, and sustainable global development.